CONTRACT FILES

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
M - FPAF	1 of 3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ.NO.	5. PROJECT NO. *(If applicable)*
P00023	25 JAN 2002	SEE SCHEDULE	

6. ISSUED BY ASC/ENVK CODE	FA8623	7. ADMINISTERED BY *(If other than Item 6)* CODE	FA8631

USAF/AFMC
AERONAUTICAL SYSTEMS CENTER BLDG.
1801 10TH STREET SUITE 2
WRIGHT-PATTERSON AFB OH 45433-7626
GAIL M. PORUMB (937) 656-4395 X404
GAIL.PORUMB@WPAFB.AF.MIL

AF PLANT 42
ASC/DET 1 (AFMC)
2503 EAST AVENUE P
PALMDALE CA 93550-2196

8. NAME AND ADDRESS OF CONTRACTOR *(No., street, county, State and ZIP Code)*

PYRAMID SERVICES, INC
115 SOUTH FLORIDA AVE
ALAMOGORDO NM 88310
(505) 434-0239

MAILING DATE
JAN 25 2002

CODE 0TLA5 FACILITY CODE

(X)	9A. AMENDMENT OF SOLICITATION NO.
	9B. DATED *(SEE ITEM 11)*
X	10A. MODIFICATION OF CONTRACT/ORDER NO. F33657-99-C-0021
	10B. DATED *(SEE ITEM 13)* 28 APR 2000

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*
SEE SCHEDULE

13. THIS ITEM APPLIES ONLY TO MODIFICATION OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(X)	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: ( ) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation data, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
X	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: Special Contract Requirement AFMCPK-H8 and 52.243-2 Changes -- Cost Reimbursement
	D. OTHER *(Specify type of modification and authority)*

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

SUBJECT: Establish CLIN 0051 to Purchase a Class 4 Aircraft Rescue and Fire Fighting (ARFF) Vehicle, Project TTQK01CF16

CHANGE IN ESTIMATED COST: $532,000.00 (Increase)
CHANGE IN OBLIGATION: $532,000.00 (Increase)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER *(Type or print)*	16A. NAME AND TITLE OF SIGNER *(Type or print)*
KENNETH S. KACHOLD PROGRAM MANAGER	GAIL M. PORUMB Contracting Officer
15B. CONTRACTOR/OFFEROR *(Signature of person authorized to sign)*	15C. DATE SIGNED: 22 JAN 02
16B. UNITED STATES OF AMERICA BY *(Signature of Contracting Officer)*	16C. DATE SIGNED: 24 Jan 02

1. The above numbered contract is hereby modified in accordance with Special Contract Requirement AFMCPK-H8 "Provisions for Materials, Supplies, Parts, Utilities and Equipment" and FAR 52.243-2, "Changes", to authorize the Contractor to purchase a Class 4 ARFF Vehicle at an increase of $532,000 in the estimated cost of the contract. CLIN 0051 is established for this effort.

2. As a result of paragraph 1 above, the subject contract is specifically modified as follows:

a. SECTION B - SUPPLIES OR SERVICES:

ITEM	SUPPLIES OR SERVICES	Qty Purch Unit	Unit Price Total Item Amount
0051	CLIN Establish	1	$532,000.00
		LO	$532,000.00

Noun: REPLACE ARFF VEHICLE
ACRN: AU
NSN: N - Not Applicable
Contract type: S - COST
Inspection: SOURCE
Acceptance: SOURCE
FOB: SOURCE
Descriptive Data:
The Contractor shall replace one T-1500 ARFF Vehicle with a T-3000 vehicle as described in Commercial Item Description, dated 14 Nov 01, as attached in Section J, Attachment 18. Prior to final selection of the vendor, the Contractor shall coordinate the purchase with the ACO, who has final approval authority.

Project # TTQK01CF16 is assigned to this effort.

b. SECTION F - DELIVERIES OR PERFORMANCE:

ITEM	SUPPLIES SCHEDULE DATA	QTY	SHIP TO	MARK FOR	TRANS PRI	DATE
0051		1	1QL49			28 Feb 2003
	Noun:	REPLACE ARFF VEHICLE				
	ACRN:	AU				

c. SECTION G - CONTRACT ADMINISTRATION/PAYMENT DATA:

ACRN	Appropriation/Lmt Subhead/Supplemental Accounting Data	Obligation Amount
AU	ACRN Establish	$532,000.00
	57 13080 171 26E8 82399B 000000 00000 000035 672300 F0330L	
	New ACRN Amount: $532,000.00	
	Funding breakdown: On CLIN 0051: +$532,000.00	
	PR/MIPR: FD2060YA127091 $532,000.00	

d. SECTION H - SPECIAL CONTRACT REQUIREMENTS:

The following Section H clause is changed to read:
NAPS AFMCPK-H8 PROVISIONS FOR MATERIALS, SUPPLIES, PARTS, UTILITIES AND EQUIPMENT (CLINS 0005, 0044, AND 0051 and Option CLINs 0011, 0017, 0023, 0029, 0035) (Jul 1999)

e. SECTION J - ATTACHMENTS:

The following attachment/exhibit(s) are added to Section J:
Attachment 18 COMMERICAL ITEM DESCRIPTION, TRUCK, FIRE FIGHTING (AIRCRAFT RESCUE) (ARFF)

The following attachment/exhibit(s) are modified in Section J:
Attachment 8 Funding Recapitulation by ACRN

3. This Supplemental Agreement constitutes a full and equitable adjustment and the Contractor releases the Government from any and all liability under the contract for further equitable adjustments arising out of or in connection with the changes effected hereby.

P0000#	CLIN	SubCLIN/ Info SubLine	Date	CLIN Value	CLIN Obligation Amount	ACRN	Cumulative ACRN Total	Cumulative Contract Value Total	Cumulative Contract Obligation Total
P00001	0001		15-Jun-00	$30,600.00	$30,600.00	AA	**$30,600.00**	$30,600.00	$30,600.00
P00002	0002	00201	31-Jul-00	$5,690,509.00	$1,456,231.00	AB	$1,456,231.00	$5,721,109.00	$1,486,831.00
P00002	0002	00202	31-Jul-00		$792,714.00	AC	$792,714.00	$5,721,109.00	$2,279,545.00
P00002	0003	00301	31-Jul-00	$2,706,173.00	$696,464.00	AB	$2,152,695.00	$8,427,282.00	$2,976,009.00
P00002	0003	00302	31-Jul-00		$373,041.00	AC	**$1,165,755.00**	$8,427,282.00	$3,349,050.00
P00002	0005	00501	31-Jul-00	$810,000.00	$329,633.00	AB	$2,482,328.00	$9,237,282.00	$3,678,683.00
P00002	0006	00601	31-Jul-00	$190,000.00	$77,000.00	AB	$2,559,328.00	$9,427,282.00	$3,755,683.00
P00002	0007	00701	31-Jul-00	$240,754.00	$95,148.00	AB	$2,654,476.00	$9,668,036.00	$3,850,831.00
P00002	0008	00801	31-Jul-00	$240,754.00	$95,148.00	AB	$2,749,624.00	$9,908,790.00	$3,945,979.00
P00003	0042		21-Sep-00	$46,800.00	$10,000.00	AD	**$10,000.00**	$9,955,590.00	$3,955,979.00
P00004	0006	00601	21-Sep-00	$0.00	$75,230.00	AB	$2,824,854.00	$9,955,590.00	$4,031,209.00
P00005			8-Nov-00	$0.00	$0.00			$9,955,590.00	$4,031,209.00
P00006	0043		29-Sep-00	$1,600.00	$1,600.00	AE	**$1,600.00**	$9,957,190.00	$4,032,809.00
P00007	0005	00501	29-Sep-00	$0.00	$100,000.00	AB	**$2,924,854.00**	$9,957,190.00	$4,132,809.00
P00008	0044		30-Oct-00	$287,000.00	$287,000.00	AF	**$287,000.00**	$10,244,190.00	$4,419,809.00
P00009	0002	00203	22-Nov-00	$0.00	$1,170,000.00	AG	$1,170,000.00	$10,244,190.00	$5,589,809.00
P00009	0003	00303	22-Nov-00	$0.00	$555,000.00	AG	$1,725,000.00	$10,244,190.00	$6,144,809.00
P00009	0005	00502	22-Nov-00	$0.00	$47,575.00	AG	$1,772,575.00	$10,244,190.00	$6,192,384.00
P00009	0007	00702	22-Nov-00	$0.00	$49,500.00	AG	$1,822,075.00	$10,244,190.00	$6,241,884.00
P00009	0008	00802	22-Nov-00	$0.00	$49,500.00	AG	$1,871,575.00	$10,244,190.00	$6,291,384.00
P00010	0003	00304	28-Nov-00	$0.00	$130,000.00	AH	**$130,000.00**	$10,244,190.00	$6,421,384.00
P00011	0002	00203	22-Jan-01	$0.00	$2,271,564.00	AG	$4,143,139.00	$10,244,190.00	$8,692,948.00
P00011	0003	00303	22-Jan-01	$0.00	$951,668.00	AG	$5,094,807.00	$10,244,190.00	$9,644,616.00

P0000#	CLIN	SubCLIN/ Info SubLine	Date	CLIN Value	CLIN Obligation Amount	ACRN	Cumulative ACRN Total	Cumulative Contract Value Total	Cumulative Contract Obligation Total
P00011	0005	00502	22-Jan-01	$0.00	$332,792.00	AG	$5,427,599.00	$10,244,190.00	$9,977,408.00
P00011	0006	00602	22-Jan-01	$0.00	$37,770.00	AG	$5,465,369.00	$10,244,190.00	$10,015,178.00
P00011	0007	00702	22-Jan-01	$0.00	$96,106.00	AG	$5,561,475.00	$10,244,190.00	$10,111,284.00
P00011	0008	00802	22-Jan-01	$0.00	$96,106.00	AG	$5,657,581.00	$10,244,190.00	$10,207,390.00
P00012			19-Mar-01		$0.00		**$0.00**	$10,244,190.00	$10,207,390.00
P00013	0040	004001	29-Mar-01	$116,733.00	$116,733.00	AJ	**$116,733.00**	$10,360,923.00	$10,324,123.00
P00013	0040	004002	29-Mar-01	$18,571.00	$18,571.00	AK	$18,571.00	$10,379,494.00	$10,342,694.00
P00014	0045		9-Apr-01	$1,000.00	$1,000.00	AM	**$1,000.00**	$10,380,494.00	$10,343,694.00
P00015	0046		23-Apr-01	$4,929.00	$4,929.00	AL	**$4,929.00**	$10,385,423.00	$10,348,623.00
P00016			20-Jun-01		$0.00		**$0.00**	$10,385,423.00	$10,348,623.00
P00017	0047			$8,564.00	$8,564.00	AP	$8,564.00	$10,393,987.00	$10,357,187.00
P00018			29-Jun-00		$0.00		**$0.00**	$10,393,987.00	$10,357,187.00
P00019	0009		29-Jun-00	$6,006,242.00				$16,400,229.00	$10,357,187.00
P00019	0009	00901	29-Jun-00		$1,005,177.00	AN	**$1,005,177.00**	$16,400,229.00	$11,362,364.00
P00019	0009	00902	29-Jun-00		$1,697,632.00	AG	$7,355,213.00	$16,400,229.00	$13,059,996.00
P00019	0010		29-Jun-00	$2,955,600.00	$1,355,143.00	AG	$8,710,356.00	$19,355,829.00	$14,415,139.00
P00019	0011		29-Jun-00	$810,000.00	$374,896.00	AG	$9,085,252.00	$20,165,829.00	$14,790,035.00
P00019	0012		29-Jun-00	$190,000.00	$90,626.00	AG	$9,175,878.00	$20,355,829.00	$14,880,661.00
P00019	0013		29-Jun-00	$262,310.00	$120,269.00	AG	$9,296,147.00	$20,618,139.00	$15,000,930.00
P00019	0014		29-Jun-00	$262,310.00	$120,269.00	AG	$9,416,416.00	$20,880,449.00	$15,121,199.00
P00020	0039	0039AA	28-Sep-01	$46,475.00	$46,475.00	AP	**$55,039.00**	$20,926,924.00	$15,167,674.00
P00021			6-Aug-01		$0.00			$20,926,924.00	$15,167,674.00
P00022	0042		26-Jul-01		$15,000.00	AQ	**$15,000.00**	$20,926,924.00	$15,182,674.00

P0000#	CLIN	SubCLIN/ Info SubLine	Date	CLIN Value	CLIN Obligation Amount	ACRN	Cumulative ACRN Total	Cumulative Contract Value Total	Cumulative Contract Obligation Total
P00024	0009	00902	24-Sep-01		$400,000.00	AG	$9,816,416.00	$20,926,924.00	$15,582,674.00
P00024	0010		24-Sep-01		$125,000.00	AG	$9,941,416.00	$20,926,924.00	$15,707,674.00
P00024	0011		24-Sep-01		$239,695.00	AG	$10,181,111.00	$20,926,924.00	$15,947,369.00
P00024	0012	001201	24-Sep-01		$55,000.00	AG	$10,236,111.00	$20,926,924.00	$16,002,369.00
P00024	0012	001202	24-Sep-01		$9,321.00	AR	**$9,321.00**	$20,926,924.00	$16,011,690.00
P00024	0013		24-Sep-01		$11,000.00	AG	$10,247,111.00	$20,926,924.00	$16,022,690.00
P00024	0014		24-Sep-01		$11,000.00	AG	$10,258,111.00	$20,926,924.00	$16,033,690.00
P00025	0048		27-Sep-01	$319,686.00	$319,686.00	AK	**$338,257.00**	$21,246,610.00	$16,353,376.00
P00026	0011		28-Sep-01		$11,000.00	AG	$10,269,111.00	$21,246,610.00	$16,364,376.00
P00027			12-Oct-01		$0.00			$21,246,610.00	$16,364,376.00
P00028	0009	00902	6-Nov-01	$1,171,737.00	$142,031.00	AG	$10,411,142.00	$22,418,347.00	$16,506,407.00
P00028	0010		6-Nov-01	$30,008.00	($130,484.00)	AG	$10,280,658.00	$22,448,355.00	$16,375,923.00
P00028	0011		6-Nov-01		$0.00	AG	$10,280,658.00	$22,448,355.00	$16,375,923.00
P00028	0012	001201	6-Nov-01		$11,313.00	AG	$10,291,971.00	$22,448,355.00	$16,387,236.00
P00028	0013		6-Nov-01	$2,788.00	($11,430.00)	AG	$10,280,541.00	$22,451,143.00	$16,375,806.00
P00028	0014		6-Nov-01	$2,788.00	($11,430.00)	AG	$10,269,111.00	$22,453,931.00	$16,364,376.00
P00030	0002	00203	29-Nov-01	($14,281.00)	($14,281.00)	AG	$10,254,830.00	$22,439,650.00	$16,350,095.00
P00030	0009	00903	29-Nov-01		$539,000.00	AS	$539,000.00	$22,439,650.00	$16,889,095.00
P00030	0010		29-Nov-01		($1,349,659.00)	AG	$8,905,171.00	$22,439,650.00	$15,539,436.00
P00030	0010	001001	29-Nov-01		$1,349,659.00	AG	$10,254,830.00	$22,439,650.00	$16,889,095.00
P00030	0010	001002	29-Nov-01		$224,000.00	AS	$763,000.00	$22,439,650.00	$17,113,095.00
P00030	0011		29-Nov-01		($625,591.00)	AG	$9,629,239.00	$22,439,650.00	$16,487,504.00
P00030	0011	001101	29-Nov-01		$625,591.00	AG	$10,254,830.00	$22,439,650.00	$17,113,095.00

P0000#	CLIN	SubCLIN/ Info SubLine	Date	CLIN Value	CLIN Obligation Amount	ACRN	Cumulative ACRN Total	Cumulative Contract Value Total	Cumulative Contract Obligation Total
P00030	0011	001102	29-Nov-01		$104,741.00	AS	$867,741.00	$22,439,650.00	$17,217,836.00
P00030	0012	001201	29-Nov-01		$14,281.00	AG	$10,269,111.00	$22,439,650.00	$17,232,117.00
P00030	0012	001203	29-Nov-01		$9,459.00	AS	$877,200.00	$22,439,650.00	$17,241,576.00
P00030	0013		29-Nov-01		($119,839.00)	AG	$10,149,272.00	$22,439,650.00	$17,121,737.00
P00030	0013	001301	29-Nov-01		$119,839.00	AG	$10,269,111.00	$22,439,650.00	$17,241,576.00
P00030	0013	001302	29-Nov-01		$19,900.00	AS	$897,100.00	$22,439,650.00	$17,261,476.00
P00030	0014		29-Nov-01		($119,839.00)	AG	$10,149,272.00	$22,439,650.00	$17,141,637.00
P00030	0014	001401	29-Nov-01		$119,839.00	AG	10,269,111.00	$22,439,650.00	$17,261,476.00
P00030	0014	001402	29-Nov-01		$19,900.00	AS	917,000.00	$22,439,650.00	$17,281,376.00
P00031	0009	00903	8-Jan-02		$653,359.00	AS	1,570,359.00	$22,439,650.00	$17,934,735.00
P00031	0010	001002	8-Jan-02		$277,112.00	AS	1,847,471.00	$22,439,650.00	$18,211,847.00
P00031	0011	001102	8-Jan-02		$79,668.00	AS	1,927,139.00	$22,439,650.00	$18,291,515.00
P0031	0012	001201	8-Jan-02		($112,473.00)	AG	10,156,638.00	$22,439,650.00	$18,179,042.00
P00031	0012	001203	8-Jan-02		$112,473.00	AS	2,039,612.00	$22,439,650.00	$18,291,515.00
P00031	0013	001302	8-Jan-02		$23,694.00	AS	2,063,306.00	$22,439,650.00	$18,315,209.00
P00031	0014	001402	8-Jan-02		$23,694.00	AS	2,087,000.00	$22,439,650.00	$18,338,903.00
P00031	0049	004901	8-Jan-02	$132,473.00	$112,473.00	AG	**$10,269,111.00**	$22,572,123.00	$18,451,376.00
P00031	0049	004902	8-Jan-02		$20,000.00	AS	**2,107,000.00**	$22,572,123.00	$18,471,376.00
P00023	0051			$532,000.00	$532,000.00	AU	**532,000.00**	$23,104,123.00	$19,003,376.00
P00032	0050			$7,000.00	$7,000.00	AT	**7,000.00**	$23,111,123.00	$19,010,376.00

COMMERCIAL ITEM DESCRIPTION

Air Force Plant 42, Palmdale California
12 June 2001
(Revised 14 Nov 01)

TRUCK, FIRE FIGHTING (AIRCRAFT RESCUE) (ARFF)

Air Force Plant 42, Palmdale, California is seeking proposals for the vehicle described below. Plant 42 is an Aircraft Production and Flight Test Installation located in the High Desert of Los Angeles County, with an elevation of 2,543 feet above sea level. Climate is semiarid desert with high winds most of the year. Problems are the blowing winds, sand and dust that get into areas, which may cause damage to equipment and or instruments.

1. **SCOPE**. This Commercial Item Description (CID) describes commercially available, all wheel drive, diesel powered, three person, Aircraft Rescue and Fire Fighting (ARFF) Vehicle, in accordance with the requirements listed herein, the guidelines of Federal Aviation Administration (FAA), and the National Fire Protection Association (NFPA), for Class 4 ARFF trucks. The specified dry chemical complimentary agent systems (as noted in the respective sections of this specification) are acceptable, optional additions to the basic vehicle dictated by local operational needs. The primary function of the vehicle described in this specification is to provide an optimum level of ARFF suppression capability throughout the critical rescue and fire fighting access area for the lowest practical cost. Vehicles complying with this specification meet the ARFF vehicle requirements of FAR Part 139. However, it is also intended that this vehicle be suitable for other fire protection assignments at the airport. The ARFF vehicle is intended to carry rescue and fire-fighting equipment for on-pavement and off-pavement performance for rescuing occupants and combating fires in aircraft on, or in the vicinity of, an airport.

2. SALIENT CHARACTERISTICS

2.1 A Class 4 ARFF truck shall be built in accordance with the performance requirements listed herein, and the higher performance requirements of either Chapter 1, 2, and 3 of (FAA) Advisory Circular No: 150/5220-10B or Chapters 1, 2, and 4 of NFPA 414, Standard for Aircraft Rescue and Fire Fighting Vehicles, 1995 edition. The Class 4 truck with a High Reach Extendible Turret (HRET), shall conform to the more stringent of any state or federal law or safety standard as applied to flightline/off-road use. ARFF trucks shall be an assembly of new materials, free of defects affecting appearance, operability, durability and serviceability. All ARFF truck features shall be represented in the manufacturer's sales literature as either standard or optional equipment. The ARFF truck shall meet the performance parameters listed and shall be equipped as specified. Failure to meet the requirements of this CID or the referenced documents herein shall be cause for rejection.

2.1.1 General

2.1.1.1 All handles, latches, controls, mounted equipment; compartments and access panels shall be arranged and sized to avoid interference occurring during operations.

2.1.1.2 All steps exposed to the elements shall be fabricated of open tread.

2.1.1.3 Systems operation switches shall be protected from inadvertent activation by simple contact. External switches and switches within compartments shall be water-resistant. All relays shall be waterproofed.

2.1.1.3.1 All dash-mounted switches shall be illuminated rocker type switches with the legend for the function of the switch embossed into the illuminated area on the switch.

2.1.1.4 Major assemblies in the agent systems, except the tanks, shall be removable without the necessity for draining entire systems or dismantling other assemblies. Major agent and driveline components exceeding 150 pounds shall have lifting eyes or lugs attached.

2.1.1.5 All metal parts requiring removal for inspection, servicing or operation, such as pins, plugs, caps, dip-sticks, and safety guards, shall be secured by cable or chain so they cannot become separated from the truck. Removable panels, if required, shall retain the securing fasteners to either the panel or the structure of the truck.

2.1.2 Performance.

2.1.2.1 The Class 4 truck shall be capable of discharging water or foam selectively from the agent tanks through any outlet at its specified capacity. HRET, pre-connected woven jacket handlines, and bumper turret discharge rates shall be consistent with NFPA 414. All flow rates are for water and unexpanded foam.

2.1.2.2 The design objective for the vehicle ride quality shall be to permit safe operation over rough roads and adverse terrain found at the airport of intended service at speeds up to at least 35 mph without causing injury to the operating personnel (wearing seat belts) or damage to the vehicle.

2.1.3 Chassis Components.

2.1.3.1 The diesel engine shall be liquid cooled design

2.1.3.2 The engine shall be accessible for service and maintenance from all sides.

2.1.3.3 Temperature controlled engine cooling accessories must be fail-safe in an operational mode.

2.1.3.4 The fuel tank shall have a minimum three-inch fill opening.

2.1.3.5 The primary fuel filtering system shall include two parallel piped filtering elements and an electric fuel-priming pump. Fuel filter cartridge elements shall be replaceable without losing engine prime.

2.1.3.6 The truck shall have a 12-volt electrical and starting system.

2.1.3.7 The truck shall be equipped with two batteries. Each battery shall be rated at not less than the CCA requirement for the engine. Batteries shall be mounted in acid-resistant rollout trays. If the battery's terminals of an operationally ready truck are not accessible for connection of jumper cables then labeled and covered electrical lugs, sized for the starting load of the engine, shall be located at an exterior point on the truck body.

2.1.3.8 The truck shall be equipped with a battery charger/conditioner. The charger/ conditioner shall be powered from a covered, polarized, insulated, labeled, recessed, male, 120 volt AC auto-eject receptacle**,** located at the rear of vehicle. A weatherproof charge meter shall be installed next to the receptacle. A 50-foot long, three wire, 15 amp rated, 120 volt, AC power cable shall be provided.

2.1.3.9 The truck shall have dual 160 amp alternators (independent of each other). The alternator output, at idle or high idle, shall exceed the simultaneous operational load of the driveline, instruments, lights and air conditioning systems by 10%.

2.1.3.10 A high idle switch shall be provided to increase alternator, air compressor or air conditioning compressor output to meet the minimum load requirements. A lighted switch, within reach of the seated driver, shall activate the high idle control unit. High idle shall operate only when the truck is out of gear and the parking brake is engaged.

2.1.3.11 A labeled, auto-eject air fitting shall be located at the rear of vehicle. The air fitting shall maintain chassis air pressure during non-use periods.

2.1.3.12 The truck shall be equipped with dual forward facing air horns. The air horns shall be mounted below the cab floor, above the truck approach angle, and guarded from damage. The air horns shall be actuated by foot switches for the driver and the turret operator.

2.1.3.13 Single steel disc wheels, with tubeless steel radial tires, shall be located at each wheel position. Tire and wheel assemblies shall be interchangeable at all positions. Tread design shall be non-directional, on/off-highway, type.

2.1.3.13.1 A mud flap shall be provided at each wheel well position to reduce the damage from stones, brush, etc. being thrown off by the tires.

2.1.4 Cab

2.1.4.1 The steering column shall be adjustable for length and tilt.

2.1.4.2 Cab seating shall include a driver, turret operator and crewmember. Grab handles/bars shall be provided within the cab in order for cab passengers to stabilize themselves during cross-country operations. Projections and sharp edges within the cab ingress/egress path and operational movement areas shall be padded.

2.1.4.3 Cab seating shall be high back air suspension. The driver, turret and crewmember seats shall have fore-aft and vertical adjustments. The crew seats shall be vinyl and have ZICO brand per NFPA 414 brackets for storing one-hour self-contained breathing apparatus (SCBA) equipment in the seat backs. A removable or retractable insert (cover) shall be installed in each crew seat to cover the breathing apparatus bottle. The driver's seat will not have SCBA storage provisions. An additional SCBA storage bracket shall be installed on the back wall of the cab. Each seat shall have a three-point automatic locking seat belt system, with retractors and provisions to restrict belt cinching during rough terrain operation. Retracted seat belts ends shall not lie on the cab floor.

2.1.4.4 The cab shall be equipped with a console mounted between the driver's seat and the right-hand crew position seat allowing access to controls from either side. The console shall house the following:

1). Turret controls

2). Transmission shifter

3). Parking brake control

4). Radio equipment

5). Siren equipment

2.1.4.5 The truck shall be equipped with an electric operated windshield wiping system. The wiper arms and blades shall be of sufficient length to clear, not less than, the windshield area described by SAE J198. Individual wiper controls shall include a minimum of two speed settings, an intermittent setting and shall return the wiper blades to a park position, out of the line of vision.

2.1.4.6 The truck shall be equipped with a powered windshield washer system. The system shall include an electric fluid pump, a minimum one gallon fluid container, washer nozzles mounted to the wiper arms (wet arms), and a momentary switch.

2.1.4.7 The truck shall be equipped with a powered windshield deluge system. The deluge system shall be supplied from the agent water tank and shall have an independent

pumping system. The deluge system activation switch shall be located within reach of the seated driver and turret operator.

2.1.4.8 The truck shall be equipped with heated, power adjustable rearview mirrors, equivalent to 90 square inches of flat mirrored surface, on each side of the cab. Wide-angle convex mirror shall meet NFPA 414. Additional viewing capability shall provide a view of the ground directly in front of the truck. The rear viewing capability shall afford the driver a view of the road, a minimum of 12 feet outside the rear corners of the truck.

2.1.4.9 Instruments and controls shall be grouped by relationship and arranged by criticality. For example, engine instruments and controls shall be in a group directly in front of the driver, the agent system controls in the center of the cab, and so on. Controls having similar functions shall have similar actions. Indicator lights shall be green to indicate proper operation; amber to indicate caution and red when warning is intended. The headlight high beam indicator may be blue. Liquid filled gauges shall be surface lighted. Instruments with warning lights shall also have audible alarms. In addition too standard instrumentation, the following shall be provided:

1). Engine hour-meter.

2). Voltmeter.

3). Fuel level gauge with low level warning light and alarm.

4). Siren controls.

5). Master warning light control switch.

6). Individual warning light control switches.

7). Turret light switch.

8). Work light switch.

9). Rear spotlight switch.

10). Water tank low-level alarm, 30-second time limited

11). Foam tank low level alarm, 30 second time limited

12). Fire pump temperature gauge with high limit warning light and alarm.

13). Dry chemical system charge indicator.

14). Dry chemical system discharge valve control.

15). Compartment "Door Open" warning light and alarm.

2.1.4.9.1 A check engine light and audible alarm system shall be provided in the cab to indicate any of the following conditions:

1). Low engine coolant level.

2). Low engine oil pressure.

3). High engine coolant temperature.

2.1.4.10 The climate control system shall provide heat, defrost, a/c, and fresh air to the truck cab. The system shall include: heater core(s), evaporator(s), blower(s), plumbing, ducting, dampers, controls and any other components necessary to meet the performance requirements of SAE J382 and SAE J1503. The climate control system shall induce at least 60 cubic feet per minute of filtered, fresh air into the cab under normal operating conditions. A manual emergency damper shall shut off flow of outside air when operating in a hazardous environment. In cab components shall be protected from damage from personnel footgear. The minimum design ambient temperature shall be 32 degrees F.

2.1.4.11 The truck shall be equipped with a primary cab air conditioning system meeting the performance requirements of SAE J169 and SAE J1503. The design temperature shall be 125 degrees F. Air conditioning performance shall be met while operating at engine idle or high idle speed (standby condition). The evaporator coil drain shall be protected against back flow. Air conditioning ducting shall be provided as to allow for full movement of air throughout the cab area.

2.1.4.11.1 The primary air conditioning system shall be driven from the vehicle engine; 34,000 Btu minimum. The system shall be integral with the vehicles heater/defroster unit, utilizing the same set of controls and vents. The system shall meet the performance requirements of SAE J169 and SAE J1503.

2.1.4.11.2 Two (2), two speed defroster fans shall be mounted on the instrument panel, one on each side, inside the cab. A switch shall be mounted in the instrument panel within the driver's reach to turn the fans "on" and "off". A guard shall be mounted around the rotating blade to prevent injury.

2.1.4.12 The ARFF suspension system shall provide a controlled ride for the seated driver and passenger(s), over the listed courses, at the speeds specified. Proposals shall list the design average vertical absorbed power, in watts, at the driver's seat while negotiating;

1). a 0.7-inch RMS course at a speed of 12 MPH.

2). a 1-inch RMS course at speed of 17 MPH.

3). a 1.5-inch RMS course at a speed of 12 MPH

2.1.4.12.1 Proposals shall also list the design acceleration, in G's, at the driver's seat while negotiating;

1). An eight-inch, half-round obstacle at a speed of 12 MPH.

2). A ten-inch high, half-round obstacle at a speed of 7 MPH.

2.1.4.12.2 If alternative chassis suspension components or systems are offered as vehicle options, each enhancement must be described as to which dynamic feature is being improved and to what degree the improvement is predicted to perform.

2.1.4.13 If an alternative to the axle loading requirements of the referenced documents is offered, data shall be provided to verify that the predicted off-road mobility of the alternative shall be no less than that which would be predicted for a truck that is within the axle loading limits of the referenced documents.

2.1.4.14 The cab floor shall be covered with aluminum tread-plate material.

2.1.4.15 To protect the painted surfaces of the fenders, stainless steel scuff plates shall be installed on all fender corners.

2.1.4.16 Entry steps shall be illuminated by 12-volt work lights mounted under the cab.

2.1.5 Lights, Warning Devices and Electrical Circuits.

2.1.5.1 Non-glare white lighting shall be provided at all ladder steps and walkways where personnel are required to work during night operations. Ladder, step and area lights shall be controlled by switches on the cab instrument panel and near the light location.

2.1.5.2 The cab and all compartments shall be provided with white lighting. Switches shall automatically illuminate the lights in the cab or a compartment when the respective door is opened. Cab interior light levels shall be high enough for reading maps or manuals at each seated position. Two switched, red tinted, cab interior lights shall be provided.

2.1.5.2.1 A red flashing light, located in the driving compartment, shall illuminate automatically whenever the apparatus's parking brake is not fully engaged and any of the following conditions exist. The light shall be marked with a sign that reads: 'Do Not Move Apparatus When Light Is On.'

1). Any passenger or equipment compartment door is open.

2). Any ladder or equipment racks are not in the stowed position.

3). Stabilizer system not in its stowed position.

4). Power light tower is extended.

5). Any other device is opened, extended, or deployed that creates a hazard or is likely to cause damage to the apparatus if the apparatus is moved.

2.1.5.3 Two (2) halogen floodlights (50,000 minimum candlepower) shall be mounted at the rear of the vehicle on the engine enclosure to illuminate the area behind the vehicle and supplement the standard backup lights. The floodlights shall adjust up to a total of 180 degrees. Light control handles and switches shall be within reach from the ground. A switch shall be located on the instrument panel. These lights shall also be switched "on" automatically whenever the vehicle is in the reverse mode of operation.

2.1.5.3.1 The truck shall have a spotlight on both left and right sides of the windshield, hand adjustable type, with controls for beam adjustment inside the truck cab.

2.1.5.4 Two high-mounted floodlights shall be provided to illuminate the work areas on each side of the truck. Individual side switches shall be located in the work areas and on the instrument panel.

2.1.5.5. One (1) high intensity discharge (HID) 12-volt light shall be attached to the HRET nozzle assembly and be remotely switched at the joystick box. Lights shall rotate and elevate with nozzle movement to provide illumination of the water/foam/dry-chemical stream or as an independent remote controlled light tower. The complete system shall be weatherproof.

2.1.5.6 The truck shall have two forward facing red strobes mounted on the front and two rearward facing red strobes mounted on the rear.

2.1.5.7 The truck shall have four red strobe intersection lights. The lights shall be side facing and shall be mounted at the lower front and rear corners of the truck. The lights shall flash at a rate of 60-cycles per minute. A separate switch on the instrument panel shall activate the intersection lights.

2.1.5.8 A separate switch on the instrument panel shall activate the headlights.

2.1.5.9 An electronic siren system shall be provided. The siren shall have selections for: siren, public address and re-broadcast, from a radio, through a speaker. The amplifier and its controls shall be installed inside the cab in a location accessible to the driver and the turret operator. Siren activating foot switches shall be located in front of the driver and turret operator’s seat. A magnetic noise-canceling microphone shall be provided. The amplifier unit shall include volume control and selection of "Radio", "PA",

"Manual", "Yelp", "Wail", and “Hi-Lo” (European) Modes. The speaker shall be guarded, weather resistant, forward facing, and below the cab floor.

2.1.5.10 Two dedicated 30-ampere electrical circuits, with breakers shall be provided for powering owner installed radio gear.

2.1.5.11 A 7.5 KW (minimum capacity), 110/240 VAC, 60 hz diesel powered generator, Onan or equal, mounted on the vehicle in an enclosed compartment. The engine shall run at 1800 rpm to achieve the rated capacity to assure low noise output and longer unit life. The generator shall draw fuel from the vehicle's common fuel tank. The generator shall be in-cab remote start/stop controlled and also have a light that will indicate when it is running. The engine shall be equipped with glow plugs controlled from the dash panel to assure cold weather starting. The generator shall be equipped with a system that will shut down the unit in event of low engine oil pressure and/or high engine coolant temperature. A low oil pressure warning light and a high engine coolant temperature light, both with a lamp test capability shall be installed in the dash panel.

2.1.5.11-1 The following lighting shall be powered by the on-board generator, low voltage switch controlled, for safety purposes, from the cab dash:

1). Two (2) 1500 watt wide angle flood lights mounted on extendable poles, one mounted on each side of the vehicle's center body.

2). Two 500-watt wide-angle floodlights mounted at the front of the vehicle above the windshield.

3). One (1) 120 VAC duplex receptacle with one straight blade and one twist lock, shall be mounted on each side of the cab complete with weatherproof hinged covers.

4). One 220 VAC receptacle (Hubbell or approved equal) shall be mounted on each side of the cab complete with weatherproof hinged covers.

5). One (1) 220 VAC receptacle shall be mounted in the right rear compartment to provide electrical power for rescue tools.

2.1.6 Truck Body

2.1.6.1 All compartment doors shall be roll-up style. Service access doors shall be forward edge or top hinged. Switches and wiring, located within compartments, shall not be damaged by pressure washing or loose equipment.

2.1.6.2 Operational and service access ladders; catwalks or deckplates shall be provided. Ladder first steps shall not exceed 22 inches above the ground and rung spacing shall not exceed 14 inches. Catwalks shall be a minimum of 18 inches wide, constructed of open grating, and raised above the surrounding surfaces.

2.1.6.2.1 The truck shall be equipped with an access ladder or steps at the rear to provide access to the top of the truck.

2.1.6.3 Compartment floors shall support a load of 250 pounds with out permanent deflection. Additional, adjustable and removable, shelves shall be provided for every 18 inches of door opening in all non-dedicated compartments. Shelving adjustments shall not require removal of fasteners. Shelves shall support a minimum of 200 pounds without permanent deflection. Compartment floors shall be accessible while standing on the ground.

2.1.6.4 Roll-up compartment doors shall be fabricated of clear anodized aluminum and shall be a counterbalanced, non-locking design. Latch handles shall be full width bar type. Pull straps shall be provided where the open door height exceeds six feet.

2.1.6.5 Compartments shall have replaceable scuffplates attached with through fasteners.

2.1.6.6 Drip rails shall be provided over each or combined compartment doors.

2.1.6.7 Compartment lighting shall be provided on each side of the compartment door opening and protected from mechanical damage. Lights shall automatically activate when the doors open and from the instrument panel.

2.1.6.8 Four (4) tubular type SCBA storage compartments shall be provided for spare one-hour SCBA bottles, two on each side of the cab in the sheet metal area in front of the wheel well. A hinged cover shall be provided for each SCBA compartment and each storage tube shall be lined with rubber or equal to protect the SCBA.

2.1.6.9 The air system shall be upgraded to produce a minimum of 32 SCFM at 100 pounds per square inch gauge (PSIG) at a high idle engine setting. An air hose reel, with 200 feet on one inch inside diameter (ID), 600 PSIG or better rated, air hose shall be provided. The air hose reel shall be located in a compartment. A four-way hose guide shall be provided. The air connection to the hose reel shall be valved. An air pressure regulator shall deliver 24 SCFM at 100 PSIG at the end of the hose. The air hose shall be restricted to prevent it from pulling through the guide during rewind. A female style quick disconnect shall be attached to the end of the hose line. A tire fill nozzle equipped with a pressure gauge attached shall be provided to fill and deflate all tires for off-pavement operations. The hose reel shall have both electric and manual rewind provisions. The manual handle and nozzle shall be stored in the compartment.

2.1.6.10 A lighted license plate bracket shall be located at the rear of the truck.

2.1.7 Agent System

2.1.7.1 The usable rated capacity of the water tank shall be not less then 3000 US gallons. The minimum rated capacity of the foam concentrate tank shall be not less then 10% of the tank volume and of sufficient quantity of 3% AFFF foam concentrate to

support four times the water quantity. The reservoirs shall be constructed of UV protected Polypropylene material, and shall be provided with a lifetime warranty.

2.1.7.2 Each agent tank shall be vented to relieve pressure during maximum fill rate and combined discharge operations, and shall be capable of relieving excess liquid in the event of tank overfill. Vents shall not be fabricated of collapsible hose. The agent tank relief system shall minimize leakage of agent when the tank is full while operation on maximum slopes and grades. Drainage shall not flow over the outer body panels or in the tracks of the tires and shall be below the lowest body panel or structural member.

2.1.7.3 Each agent tank shall incorporate a valved drain, accessible while standing on the ground. The water tank drain shall be a minimum of two inches ID and shall discharge below the lowest truck body panel or structural member. The foam tank shall drain into a 55-gallon drum, with the truck setting on level ground, without external assistance.

2.1.7.4 The water tank shall be equipped with a hinged and removable manhole cover with a minimum clear opening diameter of 20 inches. A covered top opening of not less than five inches internal diameter with a removable 0.25 inch strainer shall be provided for filling the tank from above. The fill opening may be incorporated as part of the manhole cover.

2.1.7.5 A 4½-inch NSFHT male water fill connection, with 30 degree turn down fitting, a replaceable .25 inch strainer, and a chrome rocker cap shall be provided on each side of the truck. Each connection shall be equipped with a bleeder valve to bleed off air or water in the hose connected to it. Water fill system shall be designed to allow filling the water tank in two minutes at a pressure of 80 PSI. The water fill shall allow external re-supply of the water tank during discharge pumping operations. A five-light liquid level indicator shall be located adjacent to each fill connection.

2.1.7.5.1 A 2.5 inch NSFHT male fill connection equipped with a chrome cap and chain shall be provided on each side of the vehicle. Each connection shall be equipped with a bleeder valve to bleed off air or water in the hose connected to it.

2.1.7.5.2 An illuminated water level indicator shall be provided on each side of the vehicle.

2.1.7.6 A 1½ inch NSFHT swivel female foam tank fill connection, with a rocker lug plug and a replaceable strainer, shall be provided on the left side of the truck. This connection shall be furnished with chrome fittings with rocker lugs including the plug/chain assembly. This connection can also be used as the drain as described above.

2.1.7.6.1 An illuminated foam tank level indicator shall be provided on each side of the vehicle.

2.1.7.7 The foam proportioning system shall automatically proportion water and aqueous film forming foam (AFFF) within the ratios of one, three and six percent by volume.

Foam proportioning shall be uniform within 10%, for flow rates from the pre-connect agent hand lines discharge rate, up to the maximum system output capacity.

2.1.7.7.1 The foam proportioner shall be per NFPA 414 with the proportioner set for 3% AFFF foam concentrate.

2.1.7.7.2 The contractor shall provide 800 gallons AFFF, 3% foam concentrate conforming to mil standard Mil-F-24385 shipped in five-gallon containers. The manufacturer of the foam supplied must be registered on the QPL listing.

2.1.7.8. The truck shall have a bumper turret mounted on the cab front face, below the windshield, near the center of the cab with a discharge rate of 300 GPM. It shall include a joystick with a pistol grip handle, within reach of both the driver and the turret operator and have an auto-oscillation capability of 45 degrees each side of center. The turret shall be designed to meet the bumper turret performance criteria described in Table 3 of AC 150/5220-10B and Section 2-16.7 of NFPA 414. The turret shall drain automatically when the discharge valve is in the "OFF" position.

2.1.7.9 The truck shall be equipped with a 500 pound Purple-K dry chemical auxiliary agent system. A pressure indicator shall be visible to any person opening the tank fill cap. Blow-down piping shall be directed beneath the truck. The dry chemical agent tank shall include lifting rings and shall have a nameplate indicating, as a minimum, the following:

1). Extinguishing agent.

2). Capacity (pounds).

3). Weight full (pounds).

4). Weight empty (pounds).

5). Operating pressure (PSIG)

6). Hydrostatic test data (month-day-year)

2.1.7.10 A Hydro-Chem concentric, direct injection dry chemical discharge - foam/water nozzle shall be provided on the HRET. Chemical discharge control shall be within reach of driver and turret operator.

2.1.7.11 One (1) complete set of fully charged Nitrogen cylinder(s) shall be supplied. The quantity of Nitrogen provided shall be such that it will provide a complete discharge of the dry chemical agent powder plus perform a blowdown operation. Each Nitrogen cylinder shall be equipped with an integral pressure gauge on each cylinder so crewmembers can easily determine the state of charge when the cylinders are in storage.

2.1.7.11.1 An electric winch type lifting system shall be provided to lift and lower the nitrogen cylinder from the ground level to the stored position. The winch type lifting system shall be stored on the vehicle adjacent to the nitrogen cylinder storage area.

2.1.7.12 The hand line for dry chemical shall be a front mounted hose reel equipped with 150 ft. of one-inch booster hose. The hose reel shall be equipped with a 12 VDC electric rewind motor with manual rewind provisions. The rewind handle shall be stored in the compartment. A tension device should be installed to prevent the unreeling of the hose. The hand line shall be capable of discharging dry chemical in accordance with the performance requirements of the Advisory Circular. Controls at the hand line shall allow charging of the nitrogen into the dry chemical tanks, and charging of the dry chemical into the hand line.

2.1.7.12.1 The contractor shall supply 1000 pounds of Purple KW extra vivid dry chemical with funnel for easy recharging.

2.1.7.13 The vehicle shall be supplied with two hand lines for the discharge of foam/water agent. A pre-connected soft-jacketed hand line for the discharge of foam/water shall be provided on each side of the vehicle, mounted in a front lower side compartment. 200 ft. of 'Hi-Combat' or equal of 1¾-inch soft-jacket type hose and Vindicator Heavy Attack Nozzles or an approved equal shall be provided. Flow of each hand line shall be a minimum of 95 gpm controlled at the compartment and at the cab dash with a safety interlock system that will only allow charging after all of the hose has been deployed. The cab dash shall have an indicator light to advise when hose is fully deployed from each compartment. Automatic throttle activation for the pumping RPM shall be accomplished when the hand line discharge nozzle is opened. An override throttle control shall be provided for each hand line for the initial charging of the pre-connected hose. A slide-out tray shall be provided in each compartment for the storage of hand lines.

2.1.7.14 Structural Package not required.

2.1.7.15 See paragraph 2.1.3.6.

2.1.7.16 The truck shall be equipped with a Snozzle® or approved equal elevated waterway device or an approved equal HRET. The HRET shall discharge both water and foam agents. The HRET shall have a light system equal to that of the basic roof turret. In accordance with NFPA 414, paragraph 2-16.5.7(c), the defined highest tail mounted engine to be serviced is the DC-10, and in accordance with NFPA 414, paragraph 1-16.5.7(e), the reference is all USAF aircraft. The turret and boom shall both be controllable from the driver and turret operator's seated positions. The turret shall stow near the longitudinal center of the cab roof. The turret shall be operational in both stowed and elevated positions. The turret and waterway shall drain automatically when the discharge valve is in the "OFF" position. The stowed position of the HRET shall not interfere with the function of any fire fighting system, or with re-servicing access to the agent tanks. Turret controls shall be by a joy-stick, with sweep, elevation, and stream

pattern. "Hi-LOW" agent flow and "ON-OFF" may be controlled from either joy-stick or from switches within reach of both the driver and the turret operator. Boom articulation control may be incorporated into the turret control joy-stick or accomplished by a separate joy-stick. The boom and turret control systems shall be independent of all other system in the truck. Safety relief devices shall protect the boom control system from an inadvertent build up of pressure due to forceful contact of the turret or boom with a resistive object. All electric, hydraulic and agent lines shall disconnect at the boom base/truck interface. The HRET shall be visible through its full range of motion from the driver's and from the turret operator's seated positions. Fixed roof window(s) shall be located above the driver and turret operator's heads for observation of the HRET. Each roof window shall: be not less than 200 square inches; be equipped with a retractable sun shade; have a separate deluge spray system; support a firefighter’s weight or shall be protected by a non-reflective open grating capable of supporting a firefighter’s weight.

2.1.7.16.1 An articulating, telescoping aerial nozzle device shall be installed, midship mounted for maximum stability and best weight distribution. Elevation of the nozzle shall be approximately 50 feet, measured from ground level. Maximum horizontal reach shall be approximately 34 feet, measured from the base centerline. The nozzle shall be capable of being positioned at ground level in front of the vehicle, which will allow the boom to be positioned 15 degrees either side of the boom centerline. The boom shall not require or be equipped with outriggers for any boom operation.

2.1.7.16.2 The nozzle shall be stowed in a forward position, directly over the vehicle cab. The nozzle shall be capable of full operation in either the stowed or elevated position as the vehicle approaches the fire. This operation will replace the typical fixed turret appliances mounted on the cab roof.

2.1.7.16.3 The water discharge piping system shall be capable of flowing 1500 GPM as for a Class 4 vehicle with minimum friction loss. It shall meet all discharge performance requirements set forth in Advisory Circular A/C 150-5220-10B, Table 3 and NFPA 414, Table 2-16.5.3 for a Class 4 vehicle. Simultaneous high flow discharge from the HRET and bumper turrets is required.

2.1.7.16.3.1 Provide a water pump certified by the pump's manufacturer at a minimum discharge capacity capable of simultaneous discharge of the roof turret, bumper turret, and hand lines as defined in the performance requirements of the FAA Circular 150/5220-10B, paragraph 79.c.1 & 127.e.2.

2.1.7.16.4 A HRET automated controller shall be provided for standard operations of hydraulic controls. The automated controller shall accept input from sensors and the joy stick and direct these inputs to the hydraulic valves. Joystick motion shall be “ramped” so that slow precise boom positioning can be achieved, with operating speed increasing as the joystick is moved to its travel limit. The waterway shall be actuated be a hydraulic system capable of full performance at all engine speeds and the hydraulic system shall be energized whenever the engine is running.

2.1.7.16.5 As a minimum, the following automatic functions shall be provided:

1). **HOME:** Automatically returns the extendable turret to the bedded position for travel and storage. A ***BOOM NOT BEDDED*** warning light shall be provided to indicate when booms are elevated from the normal travel position.

2). **AUTO UP:** Automatically elevates and extends the turret to its full "up" position.

3). **AUTO TILT:** Automatically tilts the extendable turret for low level fire fighting.

4). **MIDPOINT:** Automatically aligns the booms for mid level piercing operations.

5). **AUTO EXTEND.** Forward extension without raising the boom from its bedded position.

2.1.7.16.6 The control system shall operate as a distributed control system with a Controller Area Network (CAN) type communications bus per ISO specification. The controller shall provide overall system management and communication.

2.1.7.16.7 The valve control module shall directly control the current supplied to the hydraulic valves regardless of coil temperature. It shall have "short circuit", "over voltage" and "over temperature" protection with a status indicator light. The module must be re-programmable by the controller over the communications bus without any physical access to the module. Programming shall include setting the minimum and maximum flow, acceleration and deceleration and variable flow input curves.

2.1.7.16.8 An emergency electrically driven hydraulic back-up system be provided as an alternate power source in the event of malfunction of the main hydraulic pump. Proportionally controlled valves shall be utilized to control all functions of the waterway with fine metering qualities of minimal movement in very close proximity to aircraft.

2.1.7.17 Air transportable configuration not required.

2.1.8 Winterization System. Not required.

2.1.9 Finish.

2.1.9.1 Exterior surface finish colors shall be: Chassis black, vehicle white.

2.1.9.2 Unless otherwise specified, the exterior finish color shall be Safety Lime Yellow.

2.1.9.2.1 As an example, a horizontal reflective band shall be applied around the truck at the approximate headlight elevation. Offsets in the band shall be made to maximize the

length of reflective surface. The reflective band may be interrupted where bright metal trim or tread plate occurs. The reflective band pattern shall be ten inches wide with three reflective stripes (one-inch red reflective, one inch body color, six inches red reflective, one inch body color and one inch red reflective). All chrome or polished metal parts, hinges, treadplate, and roll-up doors shall not be painted.

2.1.9.2.2 The vehicle shall be painted and lettered in accordance with the marking and lighting standards of Advisory Circular No. 150/5510-5B. The contractor shall apply provide numerals, lettering and department logo per the instructions of the purchaser.

2.1.9.3 The truck shall have undercoating applied where necessary and practical to inhibit corrosion.

2.1.9.4 All interior cab surfaces subject to scuffing and excessive wear including floor , door panels and console kick panels shall be covered with aluminum tread plate or stainless steel.

2.1.10 Auxiliary Equipment Requirements.

2.1.10.1 Provision shall be made for mounting tools and equipment on the truck. Special tools for servicing the vehicle, fire suppression system, and any of the auxiliary equipment shall be furnished as necessary by the vehicle manufacturer.

3. REGULATORY REQUIREMENTS

3.1 The offeror/contractor is encouraged to use recovered materials in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

3.1.1 For the purpose of this requirement, recovered materials are those materials that have been collected from solid waste and reprocessed to become a source of raw materials, as distinguished from virgin raw materials. The components, pieces and parts incorporated in the vehicle may be newly fabricated from recovered materials to the maximum extent practicable, provided the vehicle produced meet all other requirements of this CID. Used, rebuilt or re-manufactured components, pieces and parts shall not be incorporated.

4. QUALITY ASSURANCE PROVISIONS

4.1 Product Conformance.

4.1.1 The products provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and is the same product offered for sale in the commercial market. The government reserves the right to require proof of such conformance.

4.2 Commercial Item Requirement.

4.2.1 The vehicle furnished must meet the "commercial item" definition, as specified in FAR 2.101, as of the date of award. The government reserves the right to ask the offeror/contractor to prove that their product meets the referenced commerciality requirements. The offeror/contractor shall provide two copies of their commercial descriptive catalogs with their offer, as specified in Clause I106. The offeror/contractor shall identify all modifications made to their commercial model in order to meet the performance and descriptive requirements of the CID or referenced documents. In regard to the offered item, the offeror/contractor shall identify any/all variations from compliance with or modifications to the performance requirements of the CID or the referenced documents.

4.3 Contractor Requirements.

4.3.1 The contractor shall provide two sets of operation, maintenance, and parts manuals, in accordance with the requirements of the contract. The part's manuals shall list the contractor's part number for each component plus a manufacturer's part number for each purchased component, as applicable. Manuals shall be provided for review 30 days prior to the time of demonstration. The contractor shall provide a product familiarization video tape, that gives a verbal and visual description of all the information required for operation and routine maintenance of the truck and its components, plus references to the appropriate portions of the respective manuals where more detailed information can be found.

4.3.2 The contractor shall provide on site training for operators and maintenance personnel for each shift, and to be of a minimum of eight hours for each requirement. The following training shall be included:

4.3.2.1 The Snozzle® bumper turret maintenance class shall be provided for two people

4.3.2.2 Maintenance classes shall include chassis component trouble shooting and repair; fire fighting systems trouble shooting and repair; electrical systems trouble shooting and repair as well as preventative maintenance procedures.

4.3.2.3 Vehicle familiarization and operation training shall be provided for 50 individuals and shall be scheduled to accommodate three duty shifts.

4.3.3 Detailed inspection requirements.

4.3.3.1 Examination of product. The ARFF truck shall be examined to verify compliance with the salient characteristics herein. A supplier-generated checklist that identifies each relevant requirement and the inspection results shall be used. The government representatives reserve the right to inspect the production tanker at the offeror’s plant upon receipt of the chassis prior to the installation of the tank and pump and upon the completion of the ARFF truck before delivery and final acceptance. Particular attention shall be given to materials, workmanship, dimensions, surface finishes, protective coatings and sealants and their application, welding, fastening, and markings. Proper

operation of the vehicle function shall be verified. The ARFF truck shall be inspected to a reduced version of the checklist that has been approved by the procuring activity.

4.4 Testing:

4.4.1 The first production ARFF truck shall be tested in accordance with the Acceptance Criteria of NFPA 414, Chapter 4 paragraphs 4-1, 4-2, and 4-4, and tests 4.4.3 through 4.4.9, listed below, prior to delivery. All other production trucks shall be tested in accordance with NFPA 414, Chapter 4-4, Operational Tests.

4.4.2 Failure to comply with the Salient Characteristics of the CID or the referenced documents, or any of the tests shall be cause for rejection, or reconfiguration and re-test. Failure shall also include structural cracks; misalignment; interference; safety hazards; operational instability; spillage of agent, fuel or coolant; overheating.

4.4.3 Examination of product. A checklist of truck salient characteristics from this CID and the reference documents shall be compared to configured truck.

4.4.4 Agent tank rated capacity tests, equivalent to NFPA 414, paragraphs 4-3.1.1 through 4-3.1.5, shall be performed on the truck.

4.4.5 A 40 percent grade pump and roll test, equivalent to NFPA 414, paragraphs 4-3.6.1 through 4-3.6.5, shall be performed on the truck.

4.4.6 A radio suppression test, equivalent to NFPA 414, paragraphs 4-3.8.1 through 4-3.8.5, shall be performed on the truck.

4.4.7 A water tank fill and overflow test, equivalent to NFPA 414, paragraphs 4-3.16.1 through 4-3.16.5, shall be conducted on the truck.

4.4.8 Sound test. A sound test equivalent to NFPA 414, paragraphs 4-3.35.1 through 4-3.35.5, shall be conducted on the truck.

4.4.9 Operational test. A fully loaded truck shall be driven over 10 miles of paved and ten miles of off-road terrain. All loads shall be removed and all structure and surfaces shall be visibly inspected for failure or permanent deformation.

5. PACKAGING

5.1 Preservation and packaging shall be the minimum necessary to afford protection against corrosion, deterioration and physical damage during shipment from the supply source to the first receiving activity.

5.2 Unless otherwise provided in the contract, the truck shall be prepared for delivery by common carrier. A permanently marked identification plate shall be mounted in the truck cab. The identification plate shall contain the following information:

NOMENCLATURE
MANUFACTURER'S MAKE AND MODEL
MANUFACTURER'S SERIAL NUMBER
REGISTRATION NUMBER
NATIONAL STOCK NUMBER (NSN)
VEHICLE CURB WEIGHT: kg(pounds)
PAYLOAD, MAXIMUM: kg(pounds)
GROSS VEHICLE WEIGHT (GVW): kg(pounds)
GROSS COMBINATION WEIGHT RATING: kg(pounds)
DATE OF DELIVERY (month and year)
WARRANTY (month and km (miles))
CONTRACT NUMBER
US PROPERTY

E N D